DOI: 10.1111/1475-6773.13260

DEBATE-COMMENTARY

HSR Health Services Research

Housing, housing policy, and deaths of despair

The United States is in the midst of a multifaceted public health crisis, marked by increasing midlife mortality rates among nearly all racial and ethnic groups.[1-3] The burden of this crisis has fallen most heavily among vulnerable populations, particularly individuals with lower levels of income and education.[2-7] Patterns of rising mortality—which vary across time, space, and causes of death—suggest a complex set of underlying causes, many of which may have been operative for decades.[2]

Since the mid-1990s, rising midlife mortality rates have been driven in large part by deaths from drug overdose—predominantly prescription, illicit, and synthetic opioid overdose—and, to a lesser extent, deaths from suicide and alcohol-related liver disease.[2,5] Research on opioid overdose deaths has largely focused on the role of increased availability of prescription opioids.[8-10] Case and Deaton recently spurred a second complementary line of inquiry, hypothesizing that elevated rates of opioid overdose, suicide, and alcohol-related mortality—collectively referred to as "deaths of despair"—have resulted from compounding social and economic disadvantage over the life course.[5,11] Investigations of this hypothesis have focused on eroding economic conditions, such as sustained declines in employment owing to foreign trade competition or manufacturing plant closures.[12-15]

This literature has convincingly demonstrated the importance of these economic factors in partially explaining the observed increases in mortality at midlife. However, other potential causes warrant study. The American midlife mortality crisis may trace back to the early 1980s, which is when growth in life expectancy in the United States slowed relative to other industrialized nations, anticipating the alarming reversal in longevity since 2014.[2] During this time period, disparities in mortality—particularly by socioeconomic status and geographic region—have widened.[16,17] These broad patterns implicate not only the economic shifts that have largely excluded people with less formal education[12,18-20] but also policy-driven erosion of the social safety net and increasing precarity in the lives of the poor.[21-23] The clustering of multiple socioeconomic stressors concentrated among people in the lower end of the income distribution, in a backdrop of structural and institutional changes that have diminished resilience to these stressors, may have laid the foundation for increasing despair and worsening health.

There is little research explicitly examining the role of social policy changes and socioeconomic precarity in driving the ongoing mortality crisis. In an innovative and important study in this issue of *Health Services Research*, Ashley Bradford and W. David Bradford examine whether policy-driven changes in housing instability—conceptualized in this study by county-level eviction rates—are associated with county-level drug and alcohol overdose mortality rates.[24] The focus on evictions provides a potentially powerful lens for illuminating structural drivers of the opioid crisis. Housing is a critical social determinant of health,[25-28] and evictions represent a culmination of compounding housing insecurity and economic distress that further raises the risk of poverty thereafter.[29,30] In addition, housing insecurity and evictions are intimately tied to public policy choices, particularly those that affect the generosity and functioning of the social safety net.[29,31,32]

A large literature has demonstrated that substance use disorder and housing insecurity are highly correlated.[33] However, the direction of causality (assuming there is a causal relationship) is not clear. Evictions may both serve as a cause and consequence of substance use disorders. Bradford and Bradford address this issue by focusing on variation in eviction rates generated by state housing policies, including grace periods for late rental payments, limits on landlord retaliation, and number of months' rent that can be charged by landlords for deposits, among others. They identify these policies through an exhaustive search of the legal literature, which in itself is an important contribution. A causal interpretation of their findings, based on their study approach, requires that state housing policies do not directly affect the outcome of drug overdose mortality rates and that they were not implemented due to concerns about worsening mortality rates. A causal interpretation further requires that these policies were not correlated with other policies that may affect mortality rates through other channels (eg, changes to Medicaid policy[31,34,35]). Though it is not possible in observational research designs to fully exclude such biases, the authors reduce the scope of possible violations of these key assumptions in a careful empirical design that includes a rich set of socioeconomic and demographic covariates, as well as county and year fixed effects.

Bradford and Bradford find a substantively meaningful association between eviction rates and overdose mortality from several classes of drugs as well as alcohol. Using opioids as a representative case study, their estimates imply that counties in the top quartile of eviction rates had annual adjusted opioid overdose mortality rates that were 21 percent higher (as compared to the mean mortality rate across all years and counties) relative to counties in the lowest quartile of eviction rates. This association was most prominent in metropolitan counties, with null associations estimated for rural areas.

The findings of this novel study underscore the complexity of the underlying forces that have precipitated the rise in deaths of despair and the larger mortality crisis within which these deaths are embedded.[36-38] The results raise a number of questions that should be prioritized in future work. Stratified analyses—by age, gender, and race/

 © Health Research and Educational Trust

ethnic group—may provide interesting insights into the differential dynamics of rising drug overdose mortality across demographic groups. Such an analysis may also shed light on drivers of emerging population health among women and nonwhites, populations who are also experiencing rising mortality rates but for whom the evidence base on underlying drivers of these trends remains relatively underdeveloped.[3]

Advances in linking and analysing administrative data from diverse sources may allow for individual-level analyses that increase confidence in causal claims.[30] Such analyses may also address potential bias from selective migration, which may challenge research designs using area-level data.[39] Depending on what is available, high-resolution administrative data may also help researchers elucidate the mechanisms linking eviction to substance use disorder, for example, increasing financial strain, legal challenges, rising stress, or reduced engagement with health care providers. On this last point, qualitative methods may be particularly useful in identifying what factors increase the risk of, and pathways to, substance use disorder among economically or socially vulnerable individuals facing housing insecurity.[40]

Also critical for translating research to policy is understanding the conditions under which eviction—or housing insecurity more generally[27]—does and does not influence drug overdose mortality. Is the lack of association between evictions and health outcomes in rural areas explained by lower baseline eviction rates, lower rental costs, different local policy environments, or the overwhelming influence of other factors that affect death rates in rural areas[37]? Does the increasing concentration of evictions—and, relatedly, foreclosures—reinforce a stigma of place that undermines economic/educational opportunity or other longer-term determinants of health?[41,42] More generally, how do other factors such as the social safety net, public health investments, or access to health care moderate the potential adverse effects of evictions on health? How do the findings speak to the potential consequences of other trends in urban housing, in particular gentrification, whose relationship to evictions and health outcomes has thus far been shown to be mixed?[43,44]

These questions aside, the analysis by Bradford and Bradford already yields a useful set of empirical findings to draw on for policy discussions. Most immediately, the strong association between policy-driven changes in evictions and drug overdose deaths suggests that the worrisome trends in the housing sector—namely, rising cost burdens faced by an ever-growing share of renters[45]—may continue to undermine mental health at the population level. These and other health consequences should be considered in any discussion of the potential costs and benefits of housing policy proposals. Bradford and Bradford make this point powerfully in motivating their study with the case of recent initiative proposed by the Secretary of Housing and Urban Development, which would substantially increase minimal rents in federally subsidized housing nationwide.

The results also highlight the need for proactive approaches to the drug overdose crisis that go beyond efforts to restrict drug supply.[36] The stigma attached to opioid use and opioid use disorder remains a key barrier to implementing structural changes that will improve screening and treatment, particularly in vulnerable populations.[46] Concurrent with antistigma interventions, improving screening and data surveillance in areas hit hard by housing or economic shocks can help identify incident substance use disorder and enable early, targeted intervention. As part of these efforts, health care and public health professionals should be empowered to recognize and address structural determinants of health.[47,48] Such efforts will require buy-in from health systems and payers. Health care organizations are increasingly taking proactive efforts to address housing insecurity and other social determinants of health, with some organizations moving beyond screening and referral to directly investing in affordable housing.[49] The relative efficacy of such efforts, compared to those that may be taken by housing authorities or other agencies, remains unknown.

The ongoing mortality crisis in the United States—in which rising drug overdose deaths have played a prominent role—involves a vast and complex mix of demographic groups and geographic areas. Our understanding of its fundamental drivers remains incomplete. While there are several broad themes that may link the experiences of different areas of the country and demographic groups, the circumstances leading to worsening population health within any given demographic group, place, or time—and the interventions needed to address these trends—are likely to be unique. Consequently, researchers and policy makers will need to think creatively and iteratively about the root causes of worsening population health, adopting both national and local perspectives. The innovative study by Bradford and Bradford provides a cardinal example of such thinking.

ACKNOWLEDGMENTS

Joint Acknowledgment/Disclosure Statement: Atheendar Venkataramani and Alexander Tsai acknowledge funding from the Robert Wood Johnson Foundation, Evidence for Action (R4A) programme. They have no other disclosures to declare.

Atheendar S. Venkataramani MD, PhD[1,2]
Alexander C. Tsai MD, PhD[3,4,5]

[1]*Department of Medical Ethics and Health Policy, Perelman School of Medicine, University of Pennsylvania, Philadelphia, Pennsylvania*
[2]*Leonard Davis Institute of Health Economics, University of Pennsylvania, Philadelphia, Pennsylvania*
[3]*Center for Global Health, Massachusetts General Hospital, Boston, Massachusetts*
[4]*Harvard Medical School, Boston, Massachusetts*
[5]*Mbarara University of Science and Technology, Mbarara, Uganda*

Correspondence
Atheendar S. Venkataramani, MD, PhD, Department of Medical Ethics and Health Policy, Perelman School of Medicine, University of Pennsylvania, Philadelphia, PA.
Email: atheenv@pennmedicine.upenn.edu

ORCID

Atheendar S. Venkataramani https://orcid.org/0000-0002-7612-8903

REFERENCES

1. Murphy S, Xu J, Kochanek K, Arias E. *Mortality in the United States, 2017*. Hyattsville, MD: US National Center for Health Statistics; 2018.
2. Woolf SH, Schoomaker H. Life expectancy and mortality in the United States, 1959–2017. *JAMA*. 2019;322(20):1996-2016.
3. Muenning PA, Reynolds M, Fink DS, Zafari Z, Geronimus AL. America's declining well-being, health, and life expectancy: not just a white problem. *Am Econ J Appl Econ*. 2018;108(12):1626-1631.
4. Bor J, Cohen G, Galea S. Population health in an era of rising income inequality: USA, 1980–2015. *Lancet*. 2017;389(10077):1475-1940.
5. Case A, Deaton A. Mortality and morbidity in the 21st Century. *Brookings Papers on Economic Activity*. 2017;Spring:397-443.
6. Chetty R, Stepner M, Abraham S, et al. The association between income and life expectancy in the United States, 2001–2014. *JAMA*. 2016;315(16):1750-1766.
7. Karas Montez J, Zajacova A, Hayward M, Woolf SH, Chapman D, Beckfield J. Educational disparities in adult mortality across US states: how do they differ, and have they changed since the mid-1980s? *Demography*. 2019;56(2):621-644.
8. Barnett ML, Olenski AR, Jena AB. Opioid-prescribing patterns of emergency physicians and risk of long-term use. *N Engl J Med*. 2017;376:663-673.
9. Shah A, Hayes C, Martin B. Characteristics of initial prescription episodes and likelihood of long-term opioid use - United States, 2006–2015. *Morb Mortal Wkly Rep*. 2017;66:265-269.
10. Alpert AE, Evans WN, Lieber EMJ, Powell D.Origins of the opioid crisis and its enduring impacts. NBER Working paper No 26500. 2019.
11. Case A, Deaton A. Rising morbidity and mortality in midlife among white non-Hispanic Americans in the 21st century. *Proc Natl Acad Sci USA*. 2015;112(49):15078-15083.
12. Autor D, Dorn D, Hanson G. When work disappears: manufacturing decline and the falling marriage-market value of men. *Am Econ Rev Insights*. 2019;1(2):161-178.
13. Pierce JR, Schott PK. Trade liberalization and mortality: evidence from U.S. counties. *Am Econ Rev Insights*. 2016;Forthcoming.
14. Venkataramani AS, Bair EF, O'Brien R, Tsai AC. Association between automotive assembly plant closures and opioid overdose mortality in the United States: a difference-in-differences analysis. *JAMA Intern Med*. 2020;180(2):1-9.
15. Dean A, Kimmel S. Free trade and opioid overdose death in the United States. *SSM Population Health*. 2019;8:100409.
16. Montez J, Friedman E. Educational attainment and adult health: under what conditions is the association causal? *Soc Sci Med*. 2015;127:1-7.
17. Ezzati M, Friedman A, Kulkarni S, Murray C. The reversal of fortunes: trends in county mortality and cross-county mortality disparities in the United States. *PLoS Med*. 2008;5(5):e119.
18. Acemoglu D, Restrepo P. Robots and jobs: evidence from US labor markets. *J Polit Econ*. Forthcoming.
19. Venkataramani AS, Tsai AC. Economic conditions. In: Galea S, Vlahov D, eds. *Urban Health*. Oxford, UK: Oxford University Press; 2019.
20. Farber HS, Herbst D, Kuziemko I, Naidu S.Union and inequality over the twentieth century: new evidence from survey data. NBER working Paper No 24587. 2018.
21. Benach J, Vives A, Amable M, Vanroelen C, Tarafa G, Muntaner C. Precarious employment: understanding an emerging social determinant of health. *Annu Rev Public Health*. 2014;35:229-253.
22. Edin K, Shaefer HL. *$2.00 a Day: Living on Almost Nothing in America*. New York, NY: Houghton Miffin Harcourt; 2015.
23. Whittle H, Leddy AM, Shieh J, et al. Precarity and health: theorizing the intersection of multiple material-need insecurities, stigma, and illness among women in the United States. *Soc Sci Med*. 2020;245:e112683.
24. Bradford A, Bradford W. The effect of evictions on accidental drug and alcohol mortality. *Health Serv Res*. 2019;1–9. https://doi.org/10.1111/1475-6773.13256
25. Baggett T, Hwang S, O'Connell J, et al. Mortality among homeless adults in Boston: shifts in causes of death over a 15-year period. *JAMA Intern Med*. 2013;173(3):189-195.
26. Taylor L. Housing and health: an overview of the literature. *Health Affairs Health Policy Brief*. 2018; https://doi.org/10.1377/hpb20180313.20396577
27. Tsai AC. Home foreclosure, health, and mental health: a systematic review of individual, aggregate, and contextual associations. *PLoS ONE*. 2015;10(4):e0123182.
28. Vasquez-Vera H, Palencia L, Magna I, Mena C, Neira J, Borrell C. The threat of home eviction and its effects on health through the equity lens: a systematic review. *Soc Sci Med*. 2017;175:199-208.
29. Desmond M. *Evicted: Poverty and Profit in the American City*. New York, NY: Broadway Books; 2016.
30. Humphries JE, Mader N, Tannenbaum D, van Dijk W. Does eviction cause poverty? Quasi-experimental evidence from Cook County, IL. NBER Working Paper No 26139. 2019.
31. Allen HL, Eliason E, Zewde N, Gross T. Can Medicaid expansion prevent housing evictions? *Health Aff*. 2019;38(9):1451-1457.
32. Desmond M, Bell M. Housing, poverty, and the law. *Annu Rev Law Soc Sci*. 2015;11:15-35.
33. Fazel S, Geddes JR, Kushel M. The health of homeless people in high-income countries: descriptive epidemiology, health consequences, and clinical and policy recommendations. *Lancet*. 2014;384(9953):1529-1540.
34. Venkataramani AS, Chatterjee P. Early Medicaid expansions and drug overdose mortality in the USA: a quasi-experimental analysis. *J Gen Intern Med*. 2019;34(1):23-25.
35. Goodman-Bacon A, Sandoe E. Did Medicaid expansion cause the opioid epidemic? There's little evidence that it did. *Health Affairs Blog*. 2017. https://www.healthaffairs.org/do/10.1377/hblog20170823.061640/full/
36. Saloner B, McGinty EE, Beletsky L, Beyrer C, Botticelli M, Sherman SG. A public health strategy for the opioid crisis. *Public Health Reports*. 2018;133(1 Suppl.):24S-34S.
37. Monnat SM. The contributions of socioeconomic and opioid supply factors to U.S. drug mortality rates: urban-rural and within-rural differences. *Journal of Rural Studies*. 2019;68:319-335.
38. Dasgupta N, Beletsky L, Ciccarone D. Opioid crisis: no easy fix to its social and economic determinants. *Am J Public Health*. 2018;108(2):182-186.
39. Diamond R, McQuade T, Qian F. The effets of rent control expansion on tenants, landlords, and inequality: evidence from San Francisco. *American Economic Review*. 2019;109(9):3365-3394.
40. Richardson L, Small W, Kerr T. Pathways linking drug use and labour market trajectories: the role of catastrophic events. *Sociol Health Illness*. 2016;38(1):137-152.
41. Besbris M, Faber JW, Rich P, Sharkey P. Effect of neighborhood stigma on economic transactions. *Proc Natl Acad Sci USA*. 2015;112(16):4994-4998.
42. Sampson RJ, Raudenbush SW. Neighborhood stigma and the perception of disorder. *Focus*. 2005;24(1):7-11.
43. Dragan K, Ellen IG, Glied SA. Gentrification and the health of low-income children in New York City. *Health Aff*. 2019;38(9):1425-1432.

44. Laniyonu A. Assessing the impact of gentrification on eviction: a spatial modeling approach. *Harvard Civil Rights-Civil Liberties Law Rev*. 2019;54:742-768.
45. Joint Center for Housing Studies of Harvard University. *The State of the Nation's Housing 2018*. Cambridge, MA: Harvard University; 2018.
46. Tsai AC, Kiang MV, Barnett ML, et al. Stigma as a fundamental hindrance to the United States opioid overdose crisis response. *PLoS Med*. 2019;16(11):e1002969.
47. Auerbach J, Miller B. Deaths of despair and builing a national resilience strategy. *J Public Health Manage Pract*. 2018;24(4):297-300.
48. Metzi JM, Hansen H. Structural competency: theorizing a new medical engagement with stigma and inequality. *Soc Sci Med*. 2014;103:126-133.
49. Tuller D. To improve outcomes, health systems invest in affordable housing. *Health Aff*. 2019;38(7):1068-1072.

SUPPORTING INFORMATION

Additional supporting information may be found online in the Supporting Information section.